

APRIL/MAY 2024

**CSEL55 — PCB DESIGN AND
FABRICATION (SBS III)**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What is an Integrated Circuit (IC)?
2. List out the surface mount components of a PCB.
3. What is meant by package density in PCB?
4. How much conductor spacing required for a low voltage PCB?
5. Why are PCBs laminated?
6. List out the properties of lamination in PCB.
7. What is PCB etching?
8. Which materials are used in soldering? Why?
9. What causes crosstalk in PCB?
10. Clarify signal reflection in PCB.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) What is multi layer PCB? and explain its applications.

Or

- (b) Briefly explain the operation in resistor, capacitor and inductor.

12. (a) State the layout rules for PCB design.

Or

- (b) What are the general artwork rules in PCB?

13. (a) Briefly explain the types of lamination in PCB.

Or

- (b) Write a short note on photoresist of PCB.

14. (a) How does soldering affect out health?

Or

- (b) Write a short note on solder mask in PCB.

15. (a) Why noise is taking place in a PCB due to power supply?

Or

- (b) What is ground noise in PCB?

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explicate the advantages and disadvantages of surface mount technology.

17. Describe artwork tapping guidelines of PCB.

18. Explain the coating process in the fabrication of PCB.

19. State the principle of soldering process? Describe the process involved in soldering and desoldering.

20. Explicate the basics of designing PCB's with Computer Aided Design (CAD).